STANTON LATTJC
ELECTRONICS

The following information is not obtained by spectrum analysis
a. Pulse width
b. Presence of excessive transmitter frequency modulation
c. Peak power output
d. Local-oscillator instability

Receiver noise figure is not influenced by
a. Crystal-mixer stage
b. Last i-f amplifier stage
c. First i-f amplifier stage
d. Local oscillator

TR recovery may be excessive due to
a. Old age of TR tube
b. Too high temperature
c. Too low temperature
d. Damaged crystal

One purpose of conical antenna scan is to
a. Allow for compensation for roll of the aircraft
b. Permit the operator to watch several targets at once
c. Allow the antenna to rotate to compensate for irregularties
d. Permit automatic tracking of the target

('X' band radar utilizes frequencies in the vicinity of
a. 3000 mcs
b. 10,000 mcs
c. 1000 mcs
d. 30,000 mcs

$Q = \frac{F_o}{\Delta F}$

The following information is not obtained by spectrum analysis

a. Pulse width
b. Presence of excessive transmitter frequency modulation
c. Peak power output
d. Local-oscillator instability

Receiver noise figure is not influenced by

a. Crystal-mixer stage
b. Last i-f amplifier stage
c. First i-f amplifier stage
d. Local oscillator

TR recovery may be excessive due to

a. Old age of TR tube
b. Too high temperature
c. Too low temperature
d. Damaged crystal

One purpose of conical antenna scan is to

a. Allow for compensation for roll of the aircraft
b. Permit the operator to watch several targets at once
c. Allow the antenna to rotate to compensate for irregularities
d. Permit automatic tracking of the target

('X' band radar utilizes frequencies in the vicinity of

a. 3000 mcs
b. 30,000 mcs
c. 1000 mcs
d. 30,000 mcs

STANTON LATTJC

ELECTRONICS

Altitude delay in an airborne radar set is usually accomplished by delaying

a. The start of the range sweep

b. The pulsing of the transmitter

c. The TR box

d. The range marks

A cosecant squared pattern antenna would be used on

a. Beacon radar

b. Fire control radar

c. Search and ground mapping radar

d. IFF radar

The power applied to the transmitting tube of a microwave radar with a pulse power of 50 KW is usually about

a. 150 V

b. 1500 V

c. 15,000 V

d. 150,000 V

The duty ratio of a radar transmitter is

a. The ratio of the number of hours each day in use, to the total number of hours in a day

b. The ratio of the pulse width to the listening time

c. The ratio of transmitted power to reflected power

d. Ratio of transmitter power to local oscillator power

The magnetron tube has

a. An emmiter, a grid, a plate and a weak magnetic field

b. An emitter, a grid, a cavity resonator and a strong magnetic field

c. An emitter, a grid, a screen grid, several cavity resonators and a strong magnetic field

d. An emitter, several gavity resonators, and a strong magnetic field

Altitude delay in an airborne radar set is usually accomplished by delaying

a. The start of the range sweep
b. The pulsing of the transmitter
c. The TR box
d. The range marks

A commonly-used pattern antenna would be used on

a. Beacon radar
b. Fire control radar
c. Search and ground mapping radar
d. IFF radar

The power applied to the transmitting tube of a microwave radar with a pulse power of 50 kW is usually about

a. 150 V
b. 1500 V
c. 15,000 V
d. 150,000 V

The duty ratio of a radar transmitter is

a. The ratio of the number of hours each day in use, to the total number of hours in a day
b. The ratio of the pulse width to the listening time
c. The ratio of transmitted power to reflected power
d. Ratio of transmitter power to local oscillator power

The magnetron tube has

a. An emitter, a grid, a plate and a weak magnetic field
b. An emitter, a grid, a cavity resonator and a strong magnetic field
c. An emitter, a grid, a between grid, several cavity resonators and a strong magnetic field
d. An emitter, several cavity resonators, and a strong magnetic field

STANTON LATTJC
ELECTRONICS

The ATR switch
a. Decreases losses of the received signal
b. Turns the tranamitter off
c. Turns the receiver off
d. Increases the amplitude of the video amplifier

The PPI indicator usually has rings which indicate
a. The CRT is defective
b. Range
c. Azimuth
d. Speed of the target

The TR switch is one that
a. Prevents the transmitter signal from entering the receiver by ionization
b. The operator throws when he wishes to transmit a pulse
c. Switches from tube-operated to relay-operated voltage control
d. None of the above

The position of the sweep on a PPI scope is determined by the
a. Position control at the operators panel
b. Vertical deflection servo on the antenna
c. Synchro generator on the antenna
d. Range tracking circuit

The primary purpose of a spectrum analyzer is to
a. Analyze the magnetron
b. Set up the AFC in the proper spectrum
c. Analyze the AVC
d. Analyze the video spectrum

The ATR switch

a. Decreases losses of the received signal
b. Turns the transmitter off
c. Turns the receiver off
d. Increases the amplitude of the video amplifier

The PPI indicator usually has rings which indicate

a. The CRT is defective
b. Range
c. Azimuth
d. Speed of the target

The TR switch is one that

a. Prevents the transmitter signal from entering the receiver by ionization
b. The operator throws when he wishes to transmit a pulse
c. Switches from tube-operated to relay-operated voltage control
d. None of the above

The position of the sweep on a PPI scope is determined by the

a. Position control at the operators panel
b. Vertical deflection servo on the antenna
c. Synchro generator on the antenna
d. Range tracking circuit

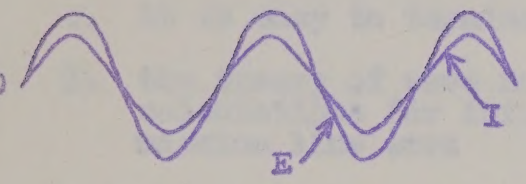
The primary purpose of a spectrum analyzer is to

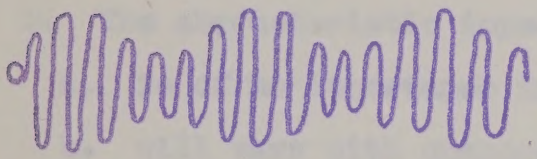
a. Analyze the magnetron
b. Set up the AFC in the proper spectrum
c. Analyze the AFC
d. Analyze the video spectrum

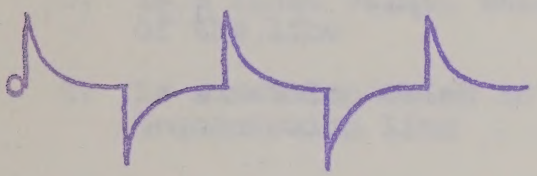
LOS ANGELES TRADE TECHNICAL SC
ELECTRONIC TECHNICIAN TRADE
INSTRUCTOR - STANTON

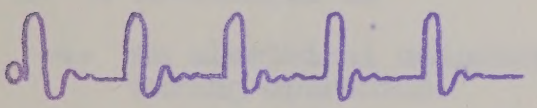
NAME_____

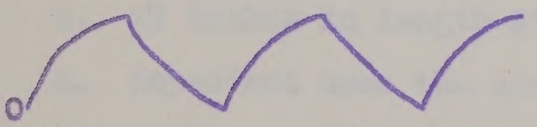
Place the number identifying the wave form in the paraenthses below.

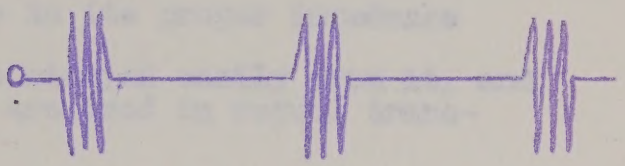
1. 

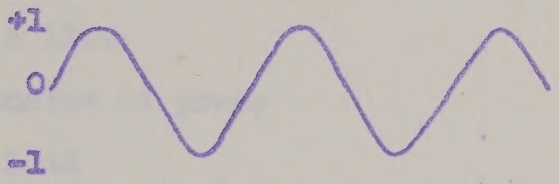
2. 

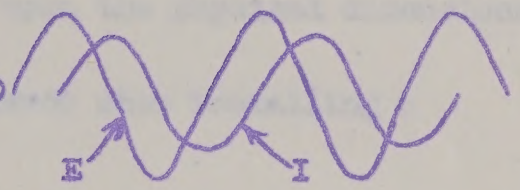
3. 

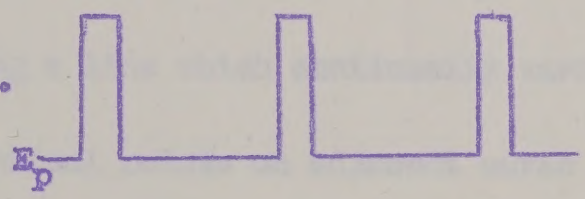
4. 

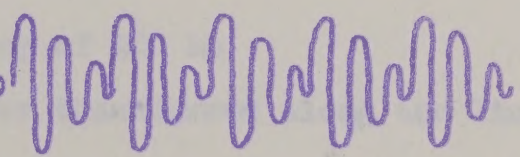
5. 

6. 

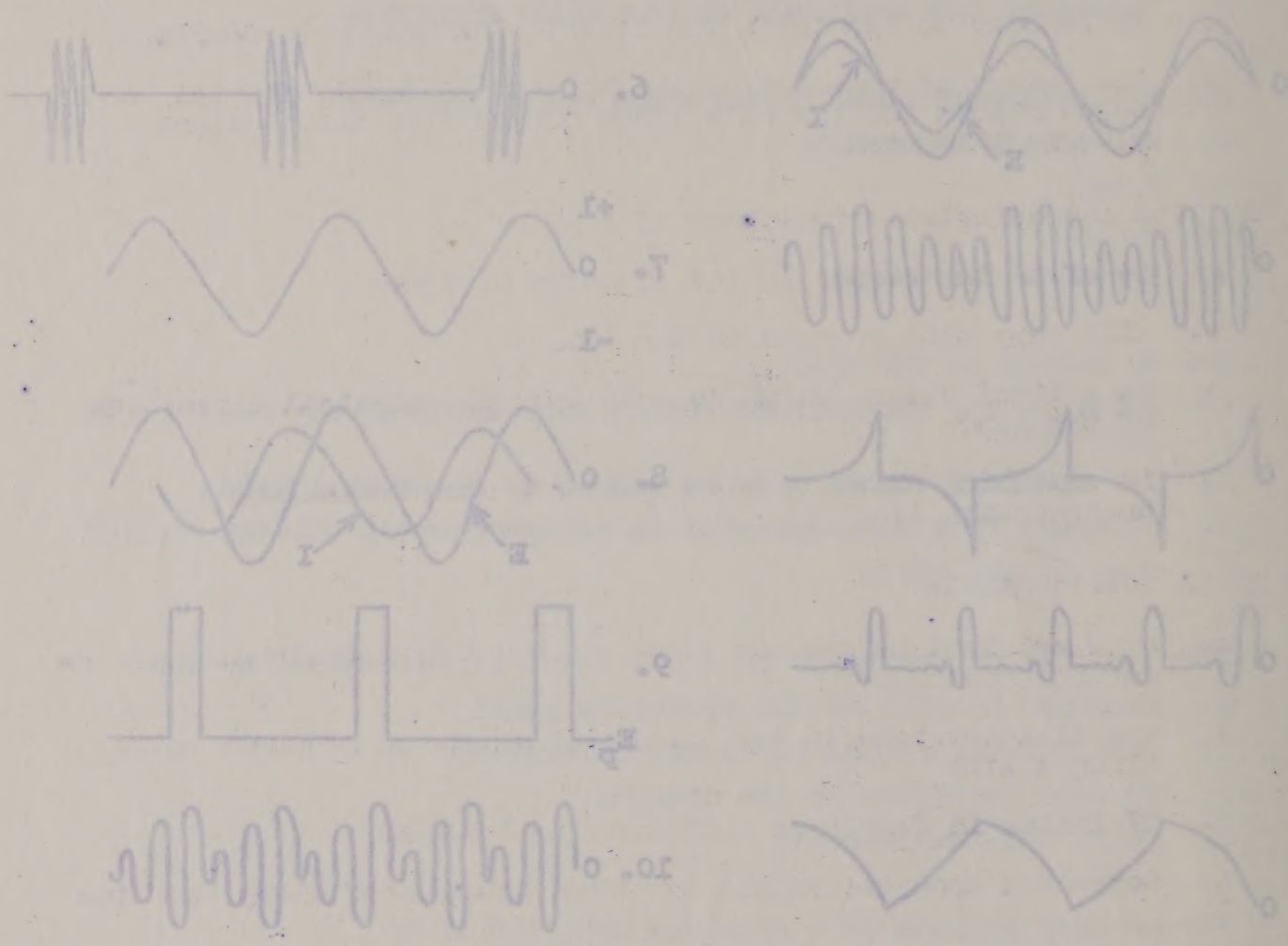
7. 

8. 

9. 

10. 

(8) Voltage and current in an inductive circuit
(6) Pulsed magnetron output
( ) FM modulated waveform
( ) Output of blocking oscillator
(7) Sinusoidal sine wave
(5) Integrated square wave
( ) Voltage and current inma capacitive circuit
(2) AF modulated RF
( ) Unmodulated CW
( ) Output of a shock exicited oscillator
( ) Cosine function of an angle
(3) Differentiated square wave
( ) Output of an assymetrical multivibrator
(1) Voltage and current in a resistive circuit



STANTON

NAME_____

TRANSMISSION LINE EXAMINATION

Circle the letter indicating the one correct answer.

1. The study of an infinite line is desirable because

   a. it is actually used in low power installations

   b. it illustrates the principle of reflection

   c. it is easy to terminate the line in its proper impedance

   d. the theory of wave motion can be studied easily from it, and calculations for infinite lines are used in actual transmission line work

2. The characteristic impedance of a line

   a. is of no importance in the transfer of power

   b. will vary with changes in the load

   c. is a fixed value, which depends upon the physical dimensions of the line

   d. is something which is not considered when installing a transmission line

3. A wavelength is

   a. an electrical measurment along a line which continually varies during operation

   b. the distance between two identical points on adjacent waves along a line

   c. 27 inches in length at a frequency of 100 kc

   d. dependent upon the amount of power transferred along the line

4. A resonant line

   a. is usually used for transfer of power over great distances

   b. has standing waves as one of its outstanding characteristics

   c. has no characteristic impedance

   d. is one-wavelength long

5. The wave travelling down the line from the generator is called

   a. the reflected wave

   b. the standing wave

   c. the incident wave

   d. the travelling wave

NAME _____

TRANSMISSION LINE EXAMINATION

Circle the letter indicating the one correct answer.

1. The study of an infinite line is desirable because
   a. it is actually used in low power installations
   b. it illustrates the principle of reflection
   c. it is easy to terminate the line in its proper impedance
   d. the theory of wave motion can be studied easily from it, and calculations for infinite lines are used in actual transmission line work

2. The characteristic impedance of a line
   a. is of no importance in the transfer of power
   b. will vary with changes in the load
   c. is a fixed value, which depends upon the physical dimensions of the line
   d. is something which is not considered when installing a transmission line

3. A wavelength is
   a. an electrical measurement along a line which continually varies during operation
   b. the distance between two identical points on adjacent waves along a line
   c. 27 inches in length at a frequency of 100 kc
   d. dependent upon the amount of power transferred along the line

4. A resonant line
   a. is usually used for transfer of power over great distances
   b. has standing waves as one of its outstanding characteristics
   c. has no characteristic impedance
   d. is one-wavelength long

5. The wave travelling down the line from the generator is called
   a. the reflected wave
   b. the standing wave
   c. the incident wave
   d. the travelling wave

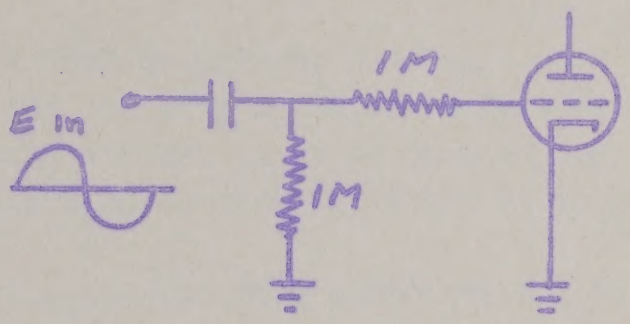
LATTJC NAME_____

QUIZ No. 5

1. The frequency of a free-running multivibrator is determined by:
   a. The frequency of the trigger voltage
   b. The time between triggers
   c. The RC time constants of both tubes
   d. Only the value of the applied B+

2. The waveform of the voltage between and ground of the stage shown in the fig below will most nearly resemble:

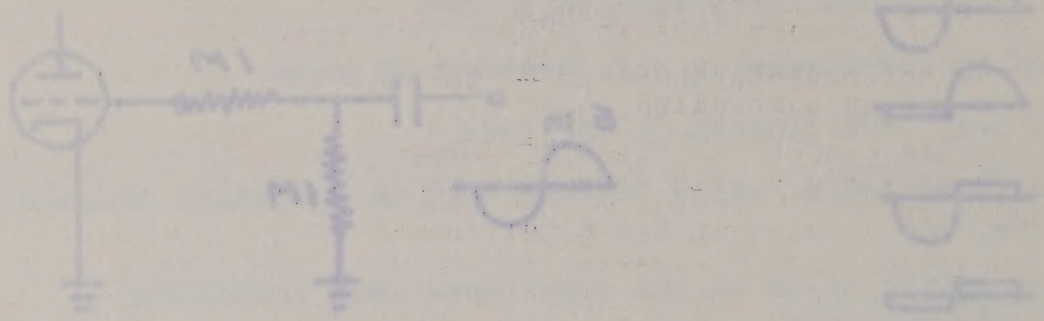
a.
b.
c.
d.



3. The purpose of a phantastron circuit is to:
   a. Operate as a multivibrator
   b. Produce a positive spike of voltage at its plate at an accurately controlled time
   c. Provide a controllable time delay in the form of a negative pulse with a variable trailing edge
   d. Provide a means of accurately counting an input pulse rate

4. When synchronizing a single-swing blocking oscillator, it is usually desireable to have the:
   a. Free-running freq higher than the forced freq
   b. Free-running freq lower than the forced freq
   c. Free-running freq the same as the forced freq
   d. Forded freq lower than the free-running freq

5. A resonant circuit which has the current through it interrupted by a gated tube is called a/an:
   a. Self-pulsing oscillator
   b. One-shot multivibrator
   c. Ringing oscillator
   d. Single-swing blocking oscillator



Name _____

COMPLETION QUESTIONS

PULSE-SHAPING CIRCUITS

If the master oscillator of a radar timer produces a sine wave, a limiter may be employed to cut off the sinusoidal peaks and form a nearly square wave. A differentiator may them be used to form pulses of very short duration from the vertical edges of the square wave. _____ may produce rectangular pulses of any desired duration. In this way short _____ pulses and rectangular _____ pulses may be formed in the timer.

_____ are commonly used to prevent a voltage from swinging too far in either the positive or negative directions. A _____, or clamping circuit as it is also called, is a circuit which shifts a waveshape so that it is all above or all below a certain voltage.

A _____ circuit is a circuit that generates the voltage which causes the spot to move across the CRT screen at a constant rate. The movement of the spot in a CRT may be caused by either a voltage change in the deflection _____ or by a current change in the deflection _____.

A widely used circuit, which never becomes free running and must always be triggered for each output pulse is the _____ multivibrator.

Circuits designed to supply the pulses to the desired loads without a change of waveform resulting from currents taken by the load or by the capacitance of connecting cables are usually _____ _____.

The master oscillator usually determines the _____ of the system.

An oscillator in which the plate and grid circuits are closely coupled through a transformer is called a _____. The operating frequency of this circuit depends on the _____ of the grid circuit.